

Travis A. Berger

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EDUCATION

University of Hawai‘i at Mānoa, Honolulu, Hawaii

Aug 2015 – Aug 2021

- M.S. (2017) and Ph.D. (2021) in Astronomy

University of North Carolina at Chapel Hill

Aug 2011 – May 2015

- B.S. in Physics with Astrophysics Option, GPA: 3.84 / 4.00
- Graduated with Highest Honors and Highest Distinction

RESEARCH EXPERIENCE

NASA Goddard Space Flight Center

Sep 2021 – present

- NASA Postdoctoral Program (NPP) Fellow
 - *Precise Demographics of NASA Kepler, K2, and TESS Exoplanets*, Dr. Joshua Schlieder

Institute for Astronomy, University of Hawai‘i at Mānoa

Aug 2015 – Aug 2021

- NASA FINESST Future Investigator
 - *Precise Demographics of Kepler Exoplanets in the Gaia Era*, Dissertation, Prof. Daniel Huber, Prof. Jennifer van Saders, and Prof. Eric Gaidos
 - *Quantitative Spectroscopy of Blue Supergiants in Dwarf Galaxy IC 1613*, Prof. Rolf-Peter Kudritzki
 - *Identifying Young Kepler Planet Host Stars from Keck-HIRES Spectra of Lithium*, Prof. Andrew Howard and Prof. Ann Boesgaard

PUBLICATIONS

Summary: 25 total, 6 first author, 1 second author; 1000+ citations; h-index: 12

FIRST AUTHOR PUBLICATIONS

- [1] T. Berger, D. Huber, E. Gaidos, and J. van Saders, “Revised Radii of *Kepler* Stars and Planets Using *Gaia* Data Release 2,” *ApJ*, vol. 866, no. 2, pp. 99, Oct 2018. Citations: 201
- [2] T. Berger, D. Huber, J. van Saders, E. Gaidos, J. Tayar, and A. Kraus, “The Gaia-Kepler Stellar Properties Catalog. I. Homogeneous Fundamental Properties for 186,301 Kepler Stars,” *AJ*, vol. 159, no. 6, pp. 280, Jun 2020. Citations: 95
- [3] T. Berger, D. Huber, E. Gaidos, J. van Saders, and L. Weiss, “The Gaia-Kepler Stellar Properties Catalog. II. Planet Radius Demographics as a Function of Stellar Mass and Age,” *AJ*, vol. 160, no. 3, pp. 108, Sep 2020. Citations: 67
- [4] T. Berger, A. Howard, and A. Boesgaard, “Identifying Young Kepler Planet Host Stars from Keck-HIRES Spectra of Lithium,” *ApJ*, vol. 855, no. 2, pp. 115, Mar 2018. Citations: 17
- [5] T. Berger, R. Kudritzki et al., “Quantitative Spectroscopy of Supergiants in the Local Group Dwarf Galaxy IC 1613: Metallicity and Distance,” *ApJ*, vol. 860, no. 2, pp. 130, Jun 2018. Citations: 10
- [6] T. Berger, J. van Saders, D. Huber, E. Gaidos, J. Schlieder, and Z. Claytor, “Is [Y/Mg] a Reliable Age Diagnostic for FGK Stars?,” *arXiv*, Jun 2022.

STUDENT PUBLICATIONS

- [7] L. Wolniewicz, T. Berger, and D. Huber, “The Stars Kepler Missed: Investigating the Kepler Target Selection Function Using Gaia DR2,” *AJ*, vol. 161, no. 5, pp. 231, May 2021. Citations: 8

SELECTED CONTRIBUTING AUTHOR PUBLICATIONS

- [8] K. Meech, R. Weryk, et al., including T. Berger, “A brief visit from a red and extremely elongated interstellar asteroid,” *Nature*, vol. 552, no. 7685, pp. 378–381, Dec 2017. Citations: 231
- [9] L. Zeng, S. Jacobsen, et al., including T. Berger, “Growth model interpretation of planet size distribution,” *PNAS*, vol. 116, no. 20, pp. 9723–9728, May 2019. Citations: 184
- [10] S. Bryson, M. Kunimoto, et al., including T. Berger, “*The Occurrence of Rocky Habitable Zone Planets Around Solar-Like Stars from Kepler Data*,” *AJ*, vol. 161, no. 1, pp. 36, Jan 2021. Citations: 53
- [11] S. Bryson, J. Coughlin, N. Batalha, T. Berger, et al., “A Probabilistic Approach to Kepler Completeness and Reliability for Exoplanet Occurrence Rates,” *AJ*, vol. 159, no. 6, pp. 279, Jun 2020. Citations: 44

- [12] E. Gaidos, T. Hirano, et al., including T. Berger, “Zodiacal exoplanets in time - X. The orbit and atmosphere of the young ‘neptune desert’-dwelling planet K2-100b,” *MNRAS*, vol. 495, no. 1, pp. 650-662, Apr 2020. Citations: 21
- [13] R. Angus, B. Angus, et al., including T. Berger, “Exploring the Evolution of Stellar Rotation Using Galactic Kinematics,” *AJ*, vol. 160, no. 21, pp. 90, Aug 2020. Citations: 20
- [14] A. Chontos, D. Huber, et al., including T. Berger, “The Curious Case of KOI 4: Confirming Kepler’s First Exoplanet Detection,” *AJ*, vol. 157, no. 5, pp. 192, May 2019. Citations: 14
- [15] E. Gaidos, T. Jacobs, et al., including T. Berger, “Planetesimals around stars with TESS (PAST) - I. Transient dimming of a binary solar analogue at the end of the planet accretion era,” *MNRAS*, vol. 488, no. 4, pp. 4465-4476, Oct 2019. Citations: 13
- [16] D. Thorngren, J. Fortney, et al., including T. Berger, “Slow Cooling and Fast Re-inflation for Hot Jupiters,” *ApJL*, vol. 909, no. 1, pp. L16, Mar 2021. Citations: 11
- [17] I. Wong, A. Shporer, et al., including T. Berger, “The Full Kepler Phase Curve of the Eclipsing Hot White Dwarf Binary System KOI-964,” *AJ*, vol. 159, no. 1, pp. 29, Jan 2020. Citations: 8
- [18] A. Chontos, D. Huber, T. Berger, et al., “TESS Asteroseismology of α Mensae: Benchmark Ages for a G7 Dwarf and Its M Dwarf Companion,” *ApJ*, vol. 922, no. 2, pp. 229, Dec 2021. Citations: 7

SELECTED CONFERENCE PRESENTATIONS AND SEMINARS

- *Invited Talk*, MW-Gaia Workshop, Aarhus, Denmark Jun 2022
- *Invited Talk*, NASA Goddard Extrasolar Planet Seminar Mar 2021
- *Dissertation Talk*, AAS 237 Jan 2021
- *Talk*, Exoplanet Demographics Conference Nov 2020
- *Invited Talk*, Penn State/CEHW Seminar Aug 2020
- *Invited Talk*, Exostar Redux Aug 2020
- *Talk*, Exoplanets III Jul 2020
- *Invited Talk*, ExoPAG Science Interest Group #2 Seminar Jul 2020
- *Talk*, Kepler/K2 Science Conference V, Glendale, CA Mar 2019

AWARDS & FELLOWSHIPS

- NASA Postdoctoral Program Fellowship, NASA-Goddard Sep 2021
- OVCR Doctoral Research Award, UH Mānoa Apr 2021
- NASA FINESST Future Investigator, UH Mānoa Aug 2019 – Aug 2021
- ARCS Scholar Award, UH Mānoa, ARCS Foundation Mar 2020
- Director’s Award, UH Institute for Astronomy Jan 2015

LEADERSHIP, TEACHING, & OUTREACH EXPERIENCE

- Proposal Review Panelist**, NASA TESS Guest Investigator Program
- Executive Secretary**, NASA XRP Program
- REU Mentor for Linnea Wolniewicz**, Institute for Astronomy May 2020 – January 2021
 - Advised project evaluating the Kepler target selection function, paper published
- Maunakea Scholars Mentor**, Institute for Astronomy Fall 2017 – Spring 2021
 - Mentored high school students proposing for observing time on Maunakea telescopes
 - Reviewed/edited student observing proposals
- Graduate Student Representative**, Institute for Astronomy Aug 2017 – Aug 2018
 - Elected and served as representative of the graduate students to the faculty, coordinated various graduate student events/meetings, and initiated a Faculty Mentor program for students
- Professional Development Program** Mar 2016 – Nov 2016
 - Designed an inquiry-based teaching activity on Fourier Analysis
 - Taught a UH undergraduate lab about Fourier Analysis through designed activity
 - Learned about and implemented equitable and inclusive teaching methods into activity